

IN THE CLAIMS:

Please **AMEND** claim 1 as follows.

1. (Currently Amended) A charged particle spectrometer which is operable in a first mode using a hemispherical analyser to produce an energy spectrum relating to the composition of a sample being analysed, and in a second mode using a spherical mirror analyser to produce a two-dimensional charged particle image of the surface of the sample being analysed, wherein the spectrometer includes a detector which is used to detect charged particles produced in both modes of operation.

2. (Original) A charged particle spectrometer according to claim 1 which is a photoelectron spectrometer, wherein the charged particle image is a photoelectron image, and wherein the charged particles are photoelectrons.

3. (Previously Presented) A charged particle spectrometer according to claim 1 wherein the detector includes a plate means, on to which, in use, primary electrons are directed in both modes of operation, and which emits a plurality of secondary electrons for each primary electron received.

4. (Original) A charged particle spectrometer according to claim 3 wherein the plate means is a micro channel plate.

5. (Previously Presented) A charged particle spectrometer according to claim 3 wherein the detector also includes a first delay line means for using the plurality of secondary electrons to produce a pair of electrical pulses in a first delay line from which a signal processing means can calculate the location of the primary electron on the plate means in a first direction.

6. (Original) A charged particle spectrometer according to claim 5 wherein the detector also includes a second delay line means for using the plurality of secondary electrons to produce a pair of electrical pulses in a second delay line from which the signal processing means can calculate the location of the primary electron on the plate means in a second direction.

7. (Original) A charged particle spectrometer according to claim 6 wherein the first and second directions are orthogonal.

8. (Previously Presented) A charged particle spectrometer according to claim 5 wherein second signal processing means processes the signals received from one or both of the delay lines to reduce or eliminate any unwanted signals.

9. (Previously Presented) A charged particle spectrometer according to claim 5 including a control means for controlling its operation and enabling a user to select which of the two modes is operating.

10. (Original) A charged particle spectrometer according to claim 9 wherein the control means also controls the signal processing means such that when the spectrometer is operating in said first mode, the signal processing means utilises signals from only one of the delay line means.

11. (Previously Presented) A charged particle spectrometer according to claim 9 wherein the control means also controls the signal processing means so that when the spectrometer is operating in said second mode the signal processing means utilises signals from both the first and second delay line means.

12. (Previously Presented) A charged particle spectrometer according to claim 9 wherein the control means includes further processing means for increasing the accuracy of time measurements of the electrical pulses.

13. (Original) A charged particle spectrometer according to claim 12 wherein the further processing means increases said accuracy by stretching the time between each one of a pair of pulses so that the time difference may be more accurately measured.

14-25. (Cancelled)

26. (Previously Presented) A method of operation of a charged particle spectrometer according to claim 1 wherein the method includes the step of selecting which of said first and second modes to use and the detector being operated accordingly.

27. (Previously Presented) A charged particle spectrometer, comprising:
a hemispherical analyser and a spherical mirror analyser, the spectrometer being operable in a first mode using the hemispherical analyser to produce an energy spectrum relating to the composition of a sample being analysed and in a second mode using the spherical mirror analyser to produce a charged particle image of the surface of the sample being analysed,

wherein the spectrometer includes a detector which is used to detect charged particles produced in both modes of operation, and the detector includes (1) a plate means, on to which, in use, primary electrons are directed in both modes of operation and which emits a plurality of secondary electrons for each primary electron received; (2) a first delay line means for using the plurality of secondary electrons to produce a pair of electrical pulses in a first delay line from which a signal processing means can calculate the location of the primary electron on the plate means in a first direction; and (3) a second delay line means for using the plurality of secondary electrons to produce a pair

of electrical pulses in a second delay line from which the signal processing means can calculate the location of the primary electron on the plate means in a second direction.